ISTITUTO SIEROTERAPICO MILANESE
"SERAFINO BELFANTI"
ENTE MORALE AGGREGATO ALLA UNIVERSITÀ DI MILANO
MILANO - VIA DARWIN 20

Feb. 29, 1952

Dear Lederberg,

Your letter of Feb. 16 has been received; it crossed over with mine. As concerns a joint paper, I shall send you a draft giving details of all my experiments related to the problem as soon as I come back from Britain - the 11th or 12th of March. Unfortunately I am leaving tonight and cannot do it before. I am sorry to leave the burden of writing the paper entirely to you, but the excuse of the knowledge of the language, is, I hope, a sufficient one! I shall see Hayes in London; he has written to me that the experiment he planned in his letter, which you know, has in fact confirmed infection by F+ . I should suggest quoting his independent result, and should ask him more details about it,

I have not yet repeated the experiment with purified DNA-ase : none available here. I hope to get some in Britain. I also hope you have a chance of confirming this point. I shall of course be repeating this experiment as soon as I come back.

I hope Hfr has reached you in good health. I have been unable to obtain transformation of F- cells with Hfr, but have tried only once. Another interesting fact is that some of the F- strains on which F+ has been transduced seem to give a high frequency of recombination (two out of six tested), while the others give a low frequency! Perhaps we are dealing with a mixture of transducing principles, or recombinations of them. It is not yet clear to me what Hfr can mean, if it does not - as it does not seem to follow your hypothesis of being a powerful F+ donor. However I have a sort of feeling that some explanation can be found.

You will not, I hope, be too much suprised of a sentence which I wrote to Hayes in the letter of which I sent you a copy. As a matter of fact, I still believe that recombination and infection are entirely separate things, as is fairly obvious from all experiments sofar, but I have been astonished by the possibility of obtaining genetic infection with such a high yield in the absence of transforming principles in the filtrates - or any sort of lysate, I have had some apparently positive results, but rather difficult to reproduce. After all, besides the fact that recombination involves a correlated change in a number of markers which is of course the fundamental difference, and that the exchange is reciprocal, the other differences between recombina-

tion and F+ infection remain the frequency with which either phenomenon occurs, and probably DNA-ase sensitivity. Not much!

Yours sincerely